

The Flash Dance Ends

Agreement Reached on Visual Fire Alarms

by Donald E. Sievers

Balancing the needs of people who are deaf or hard of hearing with those of people who may be adversely effected by seizures which can be caused by some types of flashing lights, has been the work of an ad-hoc group attempting to develop guidelines for universally effective visual fire alarms. After much hard work, the group has submitted an unanimously agreed upon document to the Americans with Disabilities Accessibility Guidelines (ADAAG) Federal Review Committee for its consideration.

In an effort to come up with a system of timely and effective notification for all, the group was formed to include, the National Electrical Manufacturers Association, the National Association of the Deaf, Self Help for Hard of Hearing People, the Epilepsy Foundation of America and the Underwriters Laboratory. The committee has succeeded in eliminating the confusion caused by differing applicable

See The Flash Dance Ends, page 10



Pathway as play

Photo by M/G

A Playground Primer

Designing Play Areas for All Children

by Susan M. Goltsman

This is the last in a series of six articles in Universal Design Newsletter on the new recreation design guideline recommendations now under review by the US Architectural and Transportation Barriers Compliance Board.

It is essential that the design of play areas integrate the needs and abilities of all children, if we believe that each and every child has a right and need to play. Play, for children, is as much a social development process as it is a physical and cognitive one. Though parts of a play area may be physically inaccessible, the social experience must be accessible to all. Play areas that offer a diversity of physical challenges will lead to increased interaction between children of different abilities. Such a diversity in the physical environment can help bring about diversity in the social

See A Playground Primer, page 4

CONTENTS

1	<i>The Flash Dance Ends</i>
1	<i>A Playground Primer</i>
6	<i>So, You Think Your Restroom Toilet Stall Is Big Enough?</i>
8	<i>Making Information Systems Accessible</i>
10	<i>Guest Satisfaction Rises From the Ashes of Motel Fire</i>
Departments	
	FedWatch 3
	New Media 7
	Tips 8
	New Products 9
	Calendar 12



How high is too high?

The ANSI A117 Committee, the group that establishes the basis of the accessibility portions of most model building codes, recently grappled with this question in response to a proposal made by the Little People of America (LPA) to lower the maximum accessible range of reach which is currently 54 inches and found in Section 4.2 of both the CABO/ANSI A117.1 (1992) standard and the Americans with Disabilities Act Accessibility Guidelines.

People of short stature represent a sizeable (albeit diminutive) minority group in American society, yet they have not previously participated in the code meetings and thus have been overlooked when it came to establishing accessibility criteria.

Angela VanEtten, LPA's representative on the ANSI committee, has been extremely persuasive in presenting arguments and as a result the committee is proposing the first try at establishing what may become a universal reach range. A problem, however, is a lack of good statistical data on the actual ranges of reach of people of short stature. Thus far we have learned that common types of dwarfism not only limit the growth of the individual, but also restrict shoulder

and other joint movement. This makes it difficult for many short people to reach even 48 inches!

As a result, the latest proposal to ANSI suggests that 48 inches be the maximum height which corresponds to the existing maximum forward wheelchair approach. ANSI has modified the 48 inches maximum by allowing controls requiring less than 3 pounds of force to be located up to 54 inches in height if parallel wheelchair approach is possible.

The impact of this proposed change will be widespread. Everything from thermostats and automatic teller machines to telephones could be effected. In addition, it poses the question of how a lower maximum reach might effect tall people. An interesting outcome to this process might be the determination that one size may not fit all. We must, therefore, ensure the participation of all affected user groups.

The ANSI committee is presently gathering data on the reach capabilities of short statured people. (See the article on the progress of the ANSI review process in FEDWATCH, page 3.) It is likely that the existing criteria will change in this or future editions of the accessibility standards as we address the issue of "How high is too high?" or "How low is too low?"

LETTERS to the
EDITOR

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I read with interest the July 1995 (*Universal Design Newsletter*, Vol. 2 No. 3) article on "Revision of the National Accessibility Standards." In the article, Richard Hudnut, chairman of the ANSI A117 Committee is quoted. He states that the "elevator industry, would object strongly" to the use of hard metric dimensions. In fact, the opposite is true. The elevator industry is in the process of converting to hard metric dimensioned equipment. Both the National Elevator Code ASME A17.1 and the National Elevator Industry Inc. Vertical Transportation Standards are currently converting all dimensions to hard metric.

Soft conversion is the real problem. As an example, the standard 36-inch door is typically converted to 915 mm in both the CABO/ANSI A117.1 and the Americans with Disabilities Act Accessibil-

ity Guidelines standards. The comparable metric door is 900 mm, not 915 mm. If a 900 mm door is provided it would not comply. Enclosed find two tables (See tables next page) which show typical imperial dimension elevators versus metric dimensioned elevators.

The standards must find ways to recognize hard metric dimensioned equipment for those industries that recognized that survival in a global market place dictates the use of hard metric dimensioned equipment.

Edward A. Donoghue, CPCA
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Code and Safety Consultant to NEII

ANSI - ADAAG Update

Informal coordination between the American National Standards Institute (ANSI) A117 Committee (for the CABO/ANSI A117.1 Standard) and the Americans with Disabilities Act Accessibility Guidelines (ADAAG) Review Committee continues to help move forward revisions to the country's two primary accessibility codes. The committees, meeting separately this spring, summer and fall, have taken advantage of members' participation on both committees and have succeeded in swiftly making significant proposed changes to the CABO/ANSI A117.1 and ADAAG. These include:

- Revision of the range of reach criteria to accommodate people of short stature;
- Reorganization of the ADAAG structure and language to make it more understandable and enforceable;
- Changes to automatic teller machine, signage, plumbing and housing sections.

The ADAAG Review Committee will be considering the changes through the end of this year and plans to submit a final package of changes to the US Architectural and Transportation Barriers Compliance Board (Access Board) next spring. Public comment is welcome during the subcommittee meeting periods that are scheduled to end in October 1995. The public will also have a chance to submit questions, comments and changes in late 1996 when the Access Board publishes a notice of proposed rule making to change the ADAAG.

The ANSI Committee is soliciting public comments on the proposed changes through Nov. 27. The

committee will meet to evaluate any comments in January, will issue a final ballot version in the spring, and hopes to have a final rule in the beginning of 1997.

Individuals who wish to obtain a copy of the proposed changes to CABO/ANSI A117.1 should contact Bob Brown at the Council of American Building Officials, 703.931.4533.

Individuals who want to provide input to the ADAAG revision process should contact Marsha Mazz at the Access Board, 800.USA.ABLE

NIDRR: Past, Present and Future of the ADA and Universal Design

Generating the core of what we see and will see in technical assistance related to the Americans with Disabilities Act (ADA), the National Institute on Disability and Rehabilitation Research (NIDRR) of the US Department of Education is quietly leading the way in funding programs that promote the understanding and awareness of the ADA.

One of NIDRR's most effective projects is the ADA Technical Assistance Initiative. To accomplish its goals three types of services have been set up: 10 regional Disability and Business Technical Assistance Centers (DBTACs), three Materials Development Projects (MDPs), and four new National Training Projects (NTPs).

The DBTACs provide technical assistance services such as referrals, consultation, and facility surveys. In fiscal year 1994, the DBTACs fielded more than 75,700 ADA-related telephone inquiries, made 13,764 referrals, distributed almost 700,000 publications and engaged in more than 4,600 public awareness and outreach activities.

The Materials Development Projects developed and tested technical assistance materials for use by the DBTACs and the National Training Projects. Two MDPs focused on such issues as employment of people with disabilities by developing training programs, materials and resources, and/or repackaging existing materials. Another MDP focused on accessibility and public accommodations, developing or identifying and adapting self-administered survey guides, checklists and materials with information on design alternatives that can be used to evaluate and create accessible environments.

The National Training Projects include: Hispanic Outreach Training; Project Implement for Individuals with Disabilities and their Family Members; the ADA National Access for Public Schools Project; and the development of videos on the ADA Standards for Accessible Design.

One of NIDRR's most effective projects is the ADA Technical Assistance Initiative. This project focuses on a network of grantees to provide information, training and technical assistance to businesses and agencies with duties and responsibilities under the ADA and people with disabilities who have rights under the act.

ACCESSIBLE PASSENGER ELEVATOR INDUSTRY STANDARDS					
IMPERIAL DIMENSIONED					
CAPACITY (lb)	WIDTH (in.)	DEPTH (in.)		OPENING (in.)	
		TOTAL	CLEAR	S/SLIDE	C/O
2000	68	54	51	36	----
2500	80	54	51	42	42
METRIC DIMENSIONED					
CAPACITY (kg)	WIDTH (mm)	DEPTH (mm)		OPENING (mm)	
		TOTAL	CLEAR	S/SLIDE	C/O
1000	1750	1750	1675	900	----
1275	2000	1400	1325	1100	1100
ACCESSIBLE HOSPITAL ELEVATORS INDUSTRY STANDARDS					
IMPERIAL DIMENSIONED					
CAPACITY (lb)	WIDTH (in.)	DEPTH (in.)		OPENING (in.)	
		TOTAL		2 SPEED S/SLIDE	
4000	68	88		48	
METRIC DIMENSIONED					
CAPACITY (kg)	WIDTH (mm)	DEPTH (mm)		OPENING (mm)	
		TOTAL		2 SPEED S/SLIDE	
2000	1750	2300		1300	

Note: See Vertical Transportation Standard published by National Elevator Industry, Inc., 185 Bridge Plaza North, Room 310, Fort Lee, New Jersey 07024, phone 201.944.3211, for additional capacities, dimensional standards and car arrangements that are accessible.

A Playtime Primer from Page 1

Play areas offering a diversity of physical challenges enables all children to participate and develop their skills. Such designs will lead to increased interaction between children of different abilities.

environment. The placement of less challenging activities next to those requiring greater physical ability will encourage interaction across ability levels. While complete access remains ideal, simply enabling a child to have some part of the action and communicate with others is a major step toward integration.

The following guidelines for the construction of play settings are drawn from recommendations currently under review by the US Architectural and Transportation Barriers Compliance Board.

Accessible Routes

To promote social interaction and the use of play equipment, an accessible route must connect all accessible activities within the play area. Without this path, children with disabilities will become isolated from their peers. When similar items of play equipment are placed in close proximity to one another, at least one must be located along the accessible route. When not placed in close proximity, each item must be placed along the route. Auxiliary or secondary pathways are exempt from the accessibility requirements, because they can provide differing challenges needed to ensure the integration of all children. By varying in size, shape, and texture, auxiliary routes can serve as play elements. For example, a bumpy path with heavy vegetation on the sides and overhead can create a jungle-like setting.

Surfacing

The surface of an accessible route as well as surfacing under and around accessible play equipment must be firm, stable, and slip resistant. Any surface falling within the use zone of play equipment must be resilient, as described by the ASTM F1292 performance standard.

Play Equipment Access

Access to, through, on, and/or off must be provided for every piece of accessible equipment. Access may be achieved with ramps, transfer systems, or any other method that enables children with mobility impairments to use the equipment. The methods of access can serve as physical challenges. For example, platforms can allow users to transfer between their wheelchairs and play structures. On one side of the platform, a clear level area or turning space along an accessible route must be provided to

allow for a front or side transfer. The rise between adjacent accessible deck surfaces should be low enough to allow children to climb the structure. Even on smaller structures, accessing height is an important experience. Transfer systems can often enable children with disabilities to achieve levels of vertical access. Although it is unnecessary to replicate every inaccessible elevated play activity in an accessible one, some of the same types of play experiences must be accessible to all children.

Slides

Unlike swinging, climbing or rocking, sliding requires elevation. Slides must be accessible, or a similar acces-

sible sliding experience must be provided. Although some types of slides cannot be duplicated at lower heights, the most important consideration is to provide the experience or sensation of sliding.

Swings

The design of accessible swings addresses two primary functions: getting onto the swing and pushing the swing. Enabling children with mobility disabilities to perform either function requires accessible surfacing. In each group of swings, one swing must be surfaced with a firm, stable, slip-resistant, and resilient surface. If accessible surfacing is going to extend more than 30 inches beyond the front of the swing, it should extend throughout the entire use zone. Falling on the edge between a hard surface and loose-fill materials can cause injury. Swing seats providing body support should also be considered. Presently, no swing seats conform to current safety standards and allow wheelchair users to remain in their chairs while swinging. Thus, some children may need assistance in transferring onto swing seats.

Water Play

If a water play area is provided, part of the area must be wheelchair accessible. If the water source is manipulated by children, it must be usable by all children. If loose parts such as buckets are provided and children have access to the equipment storage, the storage must also be usable by all children.

Sand Play

If a sand play area is provided, part of the area must be accessible. One way to make sand play ac-



Photo By MIG

Water play has access on one side.

A Playground Primer from Page 4

cessible is to create raised sand areas, with knee clearance space underneath for wheelchairs. But because this clearance minimizes sand depth the play becomes severely limited. Therefore, raised sand areas alone are not adequate substitutes for full-body sand play. Firm, stationary back support must be provided if children will play inside the sand area. Boulders, logs, or support posts can serve as potential back supports. A transfer system into a sand area may also be necessary where raised sand areas are not provided. A transfer system would also be appropriate for sand areas totaling more than 100 square feet, in which raised sand areas would tend to isolate accessible sand play activities. Depending on the site conditions and amount of sand play, shade may be required. Shade can be provided through a variety of ways, such as trees, tents, umbrellas, and structures. This need for shade is based on site context, program, and users.

Gathering Places

Gathering places are important areas of interaction that should allow groups of people to play, eat, watch, socialize, and congregate. In play areas, a portion of each gathering place must be accessible. Accessible benches have backrests and arm supports, which allow people of different abilities to sit together. When benches are provided in a play area, accessible benches must be located along the accessible route. Furthermore, benches used in combination with work or dining tables must be accessible. The seat height of benches should be appropriate for the age group of the intended users. Likewise, tables must accommodate different needs. A variety of sizes and seating arrangements should be provided. Every fixed picnic table must provide clearance for wheelchair users. Accessible spaces must also be provided at game tables.

Garden Settings

Gardens in play areas provide opportunities of planting, tending, and harvesting vegetation. Depending on the type and height of plantings, planter boxes may require a raised area for access or a transfer point. A garden must provide at least one accessible gardening area.

Vegetation, Trees, and Topography

Vegetation, trees, and topography should be integrated into play activities and spaces. When used as play features themselves, access up to and around them should be provided. Tree grates and other site furniture that support or protect the feature should not have openings wide enough to entrap wheels, canes, or crutch tips.

Entrances and Signage

Entrances serve as transitional zones that help orient and introduce users to the site. They also provide a place for congregating and displaying information. Signage provides visual, tactile, or auditory means of conveying information. In an environment used by children, signs must primarily communicate graphically. Talking signs are permissible. All other Americans with Disabilities Act Accessibility Guidelines apply to these elements.


Chemical Maintenance

When chemical treatment of natural areas or facilities is applied for pest control, weed control, or cleaning, signage must be placed around the perimeter of the treatment area indicating the area and date of treatment. The number of signs is determined by the size of the facility, with at least one sign at each designated entrance.

Safety and Access

Access to play equipment must conform to safety requirements such as ASTM F1487-98 when those requirements are based upon actual risk and anthropometric data. Safety criteria may be used to modify access considerations if conflict between safety and access is demonstrated and documented. Likewise, access criteria may be used to modify safety criteria if it is demonstrated that an unsafe condition has been mitigated. When a conflict occurs between safety and access, it would be irresponsible to impose a requirement that could cause harm. On the other hand, some safety requirements could unnecessarily create barriers. For example, a raised sand shelf could be considered hazardous because the raised area is more than 20 inches off the ground. Strict enforcement of safety requirements, however, would lead to a non-climbable enclosure on the edge, preventing use of the sand area by some children. Regulations should therefore have a mechanism by which changes can be made due to special conditions. To ensure that safety is not used indiscriminately as an excuse to eliminate access, the safety condition should be documented, including a discussion of methods or techniques used to determine, eliminate or minimize the safety hazard.

Consultation and Documentation

Every new play area development requires consultation between the operator, the manufacturer or designer, and community members with and without disabilities. Participation is a vital process, especially where the play area is a community asset. 

Although it is unnecessary to duplicate every inaccessible elevate play activity at a level with vertical access, some of the same types of play experiences must be accessible to all children.

So, You Think Your Restroom Toilet Stall Is Big Enough?

Designing Accessible Toilet Stalls in Florida

by Larry M. Schneider, AIA

For a project in Florida you say to yourself: "I need to make the accessible toilet stall 68 inches by 68 inches." So you make the accessible stall this dimension; but, does it comply with the requirements for the Americans with Disabilities Act Accessibility Guidelines (ADAAG)?

You are designing a public restroom with toilet stalls in Florida, so you open the Florida Accessibility Code for Building Construction (FACBC) and you look at the following section: **NEW CONSTRUCTION:** The following requirements [for] size and arrangement shall apply to new construction only:

4.17.3(2) The accessible restroom stall shall be not less than 68 inches by 68 inches and shall contain an accessible lavatory within it. The size of such lavatory to be not less than 19 inches wide by 17 inches deep, nominal size, and wall-mounted (see Figure 30(e)). Additional stalls shall be provided in conformance with 4.22.4.

4.17.3(4) The stall door shall be located in the wall adjacent to the accessible lavatory, as far from the lavatory as possible, or the stall door shall be located in the wall opposite the accessible lavatory if a 60 inch diameter wheelchair turnaround can be accommodated within the stall (see Figure 30(f)). The accessible stall door shall swing outward, shall be not less than 32 inches wide, and shall be self-closing. Such lavatories shall be counted as part of the required fixture count for the building.

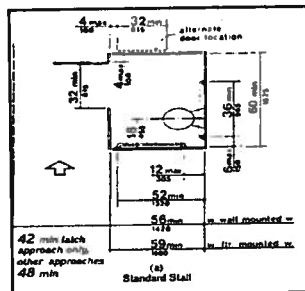


Figure 30 (a)

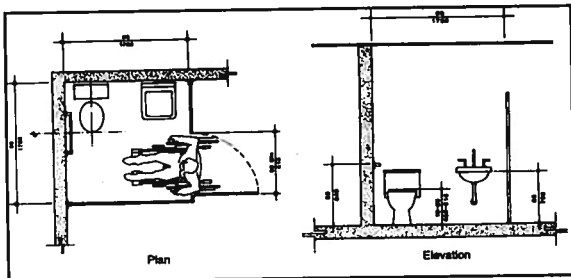


Figure 30 (e)

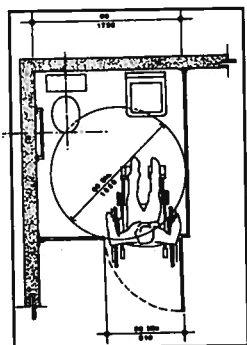


Figure 30(f)

(Florida Accessibility Code For Building Construction, January 1994 Edition)

And you say to yourself: "I need to make the toilet stall 68 inches by 68 inches." So you make the accessible stall this dimension. But, have you looked at the requirements for the Americans with Disabilities Act (ADA)? It says:

4.17.3 * Size And Arrangement

The size and arrangement of the standard toilet stall shall comply with Fig. 30(a), Standard Stall.

Standard toilet stalls with a minimum depth of 56 in (1420 mm) (see Fig. 30(a)) shall have wall-mounted water closets. If the depth of a standard toilet stall is increased at least 3 in (75 mm), then a floor-mounted water closet may be used. Arrangements shown for standard toilet stalls may be reversed to allow either a left- or right-hand approach. Additional stalls shall be provided in conformance with 4.22.4.

Have you compared the two to see what they do to each other? The US Department of Justice (DOJ) has.

Responding to a request from Dade County on this issue, John L Wodatch, chief of DOJ's Public Access Section, stated in a Aug. 8, 1994, letter to County Manager John G. Avino: "The ADA standards establish a 60-inch minimum width for an accessible standard stall required in both new construction and alterations. ...Fig. 30(a) shows this minimum width unencumbered by an accessible lavatory. The text of §4.16.2 specifies that Figure 28, which allows an accessible lavatory to overhang the clear floor space at the toilet, is to be used only for toilets not in stalls. ...A lavatory within the clear floor space limits access to the toilet to a diagonal approach, and obstructs maneuvering room; therefore, it is not permitted. The ADA Standards do not prohibit the placement of a lavatory within an accessible stall, provided that the clear floor space requirements are met."

What does this mean to you? Florida law states that the restroom stall shall be not less than 68 inches by 68 inches. The ADA guidelines require you to have a 60-inch minimum width. So, if you want to make your accessible stall comply with Florida law and ADA you will need to make the toilet stall larger to allow for the 60-inch minimum width. Therefore the back/plumbing wall will need to be a minimum of 79 inches wide in Florida counties and/or municipalities that use the Standard Building Code and a minimum of 83 inches in Dade and Broward counties. If you want to maintain the requirement of the 30 inches by 48 inches clear floor space being centerlined on the lavatory (Section 4.19.3 of the ADA guidelines and the FACBC), you will need to make the back wall/plumbing wall a minimum of 85 inches. Be careful on your dimensions -- for the width of the lavatory is the controlling factor as to the actual required width of the stall.

And you thought that architecture was just sitting down and doing some drawings!

Universal Kitchen Planning: Design that Adapts to People

This 287-page book by Mary Jo Peterson, CKD, CBD, CHE, focuses on smart design for the kitchen. The author defines key terms such as barrier-free design, adaptable design and accessible design and illustrates the differences. This provides readers a useful understanding of the type of kitchen that best suits their needs. The book incorporates photographs and sketches to show in detail the ideas being expressed. Among the featured topics are: countertops, appliances, fixtures, equipment, and safety concerns. For example, the author recommends countertops be adjustable for use by all members of a household. It provides insight on how appliances such as refrigerators, cooktops and microwaves should be examined to determine the best product on the market for particular needs. One of the most unique sections of the book, "Marketing Universal Design Services," gives suggestions on how designers can promote universal thinking and networking. For those looking to retrofit their kitchen, this is a book that should be considered. It is available from the National Kitchen and Bath Association at 687 Willow Grove Street, Hackettstown, NJ 07840; fax 908.852.1695. The cost is \$50. Copyright 1995.

Holding on to Home: Designing Environments for People with Dementia

For people who are concerned about a family member or friend with dementia or a related disability, this book, by Uriel Cohen and Gerald D. Weisman, offers a good explanation of what to expect and the housing needs of this particular population. The most well known form of dementia, Alzheimer's, is linked to environmental design throughout the book's 181 pages with descriptions and black and white drawings. One chapter specifically focuses on housing design. The authors warn against hospital like environments and promote the idea of "conventional residential settings." The book also addresses the organization of the home by encouraging designers to increase social contact and retain links with healthy and familiar spaces and objects.

The helpful notes in the margins throughout the book highlight valuable details within the text. The print is large and easy to read. This book is suited to the individual who is considering a change, but not yet at the design phase. It is available from the Johns Hopkins University Press at Hampden Station, Baltimore, MD 21211. 800.537.5487. The cost is \$45. Copyright 1991.

Contemporary Environments for People with Dementia

Written by Uriel Cohen and Kristen Day, the authors of *Holding on to Home*, this book offers a review of previous work and outlines the importance of understanding design for people with dementia. In addition, the book includes a useful discussion of various facilities that currently exist, and outlines the strengths and weaknesses of each. One chapter has an easy-to-understand chart of the good versus the "needs improvement" of each facility. The programs are outlined in a case study format, offering new trends and useful concepts. To help the novice understand the important ideas, there are floor plans, drawings and photographs. Chapter three, "Critical Issues and Concepts," reviews such topics as aging in place, deinstitutionalization, cost issues, and family participation. This book can be useful for facility managers of programs that include people with dementia. It is available from the Johns Hopkins University Press, Hampden Station, Baltimore, MD 21211. 800.537.5487 Cost \$45. Copyright 1993.

Means ADA Compliance Pricing Guide

A collaboration between Adaptive Environment Center Inc. and R.S. Means Engineering staff, this 351-page manual is designed to help building professionals determine ball-park estimates of ADA retrofitting costs. An initial overview of the ADA lists design requirements for existing facilities, alterations and new construction. Part two of the guide offers specific information for modification estimates of 75 common access problems such as parking, pathways and curbcuts, ramps, lifts, and entrances. The guide quantifies materials and labor hours for specific project elements. Also, alternative suggestions are listed with adjusted cost estimates. Part three offers case studies along with step-by-step instructions for creating accessible spaces. There are large drawings and illustrations to help the reader more clearly understand the techniques and supplies necessary for creating easy access.

Although the book is helpful, some users have noted inconsistencies in pricing information. While realizing that cost estimation is not an exact science, the reader should be aware of the discrepancies. Overall, the guide is a good tool for designers, contractors, builders and other professionals. The publication is available from R.S. Means Company Inc., Construction Publishing Consultants, 100 Construction Plaza, P.O. Box 800, Kingston, MA 02364-0800; telephone 617.585.7880. The cost is \$69.95 Copyright 1994. ■

In the next issue of UDN, read about

- new ADA Software,
- proposed changes in ADAAG and ANSI
- and much more...

TIPS

Making Information Systems Accessible

Research Center Suggests Guidelines, Seeks Input

Gregg Vanderheiden Ph.D. Trace R&D Center, University of Wisconsin - Madison, WI

It may not yet be possible to make all products accessible to all people. However, information systems are probably the most flexible of all types of products, and therefore lend themselves well to universal design. As a result, it should be possible to make most of these systems accessible to anyone who has sufficient cognitive ability to understand their use.

There are currently few accessibility standards for information systems. There are, however, guidelines and strategies for making information systems more accessible. The Trace Research and Development Center at the University of Wisconsin-Madison is collecting and encouraging the development of such guidelines through input of both consumers and industry.

General Accessibility Guidelines

Listed below are general access strategies which can be applied across all information systems and the major disability groups which would be affected.

Visual information: For all information which is presented visually (or stored as an image), have an alternate or supplemental presentation (or storage format) which does not require vision, e.g., auditory format or ASCII text. (*Blindness, cognitive/language impairment*)

Auditory information: For all information which is presented auditorially (or stored as a sound file), have an alternate or supplemental mode of presentation (or storage format) which does not rely on hearing, e.g., visual mode or ASCII text file. Auditory information includes beeps or any other sounds that convey information. (*Hearing impairment, deafness, cognitive/language impairment*)

Eye-hand coordination controls: For all controls which require eye-hand coordination (mice, trackballs, ordinary touchscreens), provide an alternate or supplemental mode which does not require eye-hand coordination, e.g., keyboard, talking fingertip touchscreen. (*Blindness, physical impairment*)

Physical requirements: Provide an alternate mechanism for any input or control mechanisms which require fine movement control, physical dexterity, reach, or strength. Avoid mechanisms which require simultaneous activation of two buttons, latches, etc. Avoid timed responses, or provide a mechanism for making the times very long. (*Physical impairment, cognitive/language impairment*)




PROBLEM: Businesses that want to comply with the Americans with Disabilities Act (ADA) may get complaints or law suits because they don't know how to take proactive steps to create a positive environment for customers with disabilities.

TIP: Gordon Anthony of Los Angeles suggests the following eight steps:

1. Initiate a strong and visual commitment by top management to comply with the ADA as a means of setting the tone throughout the company.
2. Evaluate policies, practices and procedures to ensure nondiscrimination of people with disabilities.
3. Assess facilities to identify existing barriers which prevent equal participation by people with disabilities
4. Determine auxiliary aids and services for communication which may be required to ensure that individuals with disabilities are able to exchange information as effectively as other people.
5. Create an implementation plan for making those changes that are not readily achievable in the short term. Assess future plans for alterations or new construction to ensure that they comply with the ADA Standards for Accessible Design.
6. Train staff to work with and accommodate customers with disabilities.
7. Create focus groups to obtain feedback from individuals with disabilities on how you can accommodate their needs.
8. Re-evaluate facilities and programs after changes have been made to identify other access barriers not previously identified.



PROBLEM: During a live performance many individuals with visually impairments miss out on the facial expressions and actions on the stage.

TIP: Kathy Anderson of Phonic Ear Inc. suggests that many assistive listening systems can be set on different channels. Broadcast an audio description channel that uses a trained person who describes the play-by-play action, settings and performers' reactions to people listening to the special channel. 

Universal Design
Newsletter provides
a one-year free
subscription for any
Tip which we
publish.
We look forward to
receiving and
publishing your tips.

PRODUCTS

The Series 500 Vandal Resistant Emergency Telephone

This series of emergency telephones by Parts Specialists Inc. offers Americans with Disabilities



Act (ADA) compliant emergency telephone assistance for elevators, entry ways, and parking decks. The phones, available in three cabinet sizes (two surface mounts and one flush mount), feature a red LED display indicating "Help is on the way;" nameplates meeting ADA requirements; an amplified speaker for people with hearing impairments; vandal-resistant stainless steel enclosures; push buttons; and a two-wire connection. An optional timed switch converts the push button to a press-and-release switch. An automatic dialer is available separately.

Makita Automatic Drapery Opener System

The Makita Automatic Drapery Opener System features remote control drapery opening from as much as 33 feet away and a timer which can be set to open and close drapes as many as four times per day. The system is available in 9- and 18-foot lengths. Single-motor units can carry draperies weighing 60 pounds, while double-motor systems can accommodate up to 120 pounds of draperies. The opener system is sold in complete kits which include motors, white aluminum tracks, timers, and remote controls, or as individual components to allow for system



customization. Clear anodized aluminum tracks and controls for three motors or multiple frequencies are also available.

Won-Door FireGuard Accordion-type Fire Doors

Won-Door FireGuard Accordion-type Fire Doors provide the protection of conventional fire doors, while offering unique configurations and applications that can create areas of rescue assistance. The system allows the doors to automatically close at the activation of a fire alarm, spanning unlimited widths and heights up to 23 feet. The doors' tight fitting floor sweep and fire liner provide an excellent smoke and draft seal without an access-impeding floor track. Fire exit hardware can be configured and placed to accommodate people with disabilities. In addition, the doors' automatic closing system permits the width



and duration of opening to be programmed separately. The automatic closing can also be overridden and opened manually with a push on the leadpost. An optional compact control unit permits monitoring of the door status from a central location. FireGuard is listed for two hours as a fire-rated wall. □

The New Products column was provided by the ABLEDATA project, a computerized database of information on assistive equipment which is funded by the National Institute on Disability and Rehabilitation Research and is administered by Macro International Inc., Silver Spring, MD.

Parts Specialists Inc
14639 Short Street
Posen, IL 60469
708.371.2444

Makita U.S.A., Inc.
14930 Northam Stree
LaMirada, CA 90638-5753
800.4.MAKITA

Won-Door Corporation
1865 South 3480 We
Salt Lake City, UT 84104
800.453.8494 or
801.973.7500

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Guest Satisfaction Rises From the Ashes of Motel Fire

“Commercial salesmen have discovered the convenience of these rooms with the roll in showers and they just love them,”

**Dave Molatore
Klamath Falls, OR**

On Dec. 30, 1993, a careless, intoxicated smoker fell asleep in the 38-year-old, four-building, 104-room Quality Inn Motel in Klamath Falls, OR. The fire blew out windows in the building, went into the attic and raced the length of the building. Parts of the facility that weren't touched by the fire itself were damaged by firefighters attempting to contain the blaze. As a result, owner Dave Molatore lost four rooms and the entire roof.

The tragedy opened an opportunity for the long-time Oregon hotelier. He gutted the entire inside of the 17-room building where the fire had occurred. In a couple of instances, he took two very small rooms and made one, ending up with six rooms on the upper floor, four rooms on the lower floor, and commercial office space.

He saw his rebuilding effort as an opportunity not only to comply with the law but to attract customers with disabilities to his coastal overlook property. Three of the four guestrooms on the lower floor were made into accessible double rooms, one with a roll in shower. All bathrooms have ceramic tile and are first quality. The remaining room was made into the adjoining room of a two-room suite.

Right after the rooms were completed there was a state convention of the Disabled American Veterans. According to Molatore, he was told by the group's meeting planner that he had the most accessible rooms in the state.

The real surprise for Molatore has been the demand by guests without disabilities for the accessible rooms -- representing a trend that runs contrary to conventional thinking. “Commercial salesmen have discovered the convenience of these rooms with the roll in showers and they just love them,” says Molatore. “We hold the accessible rooms until the property sells out, but if guests with disabilities haven't rented them, we turn them loose to anyone who appreciates the convenience and comfort of these ‘special’ rooms.”



Single lights are better than multi-light installations.

The Flash Dance Ends, From Page 1

standards, including those found in ADAAG.

The Recommendations

The concept of visual warning for deaf and hard of hearing people, found within the recommendations, were developed by Ferd DeVoss of Underwriters Laboratories. His concept requires .0375 lumens of light per square foot for the area of desired visual coverage.

Required intensities for flashing lights set forth in the recommendations are therefore based upon room sizes, and whether the occupants of the area are sleeping or awake. Flash rates have been reduced from current standards to a maximum speed of 2 Hz (two flashes per second) to reduce the potential for photo induced seizures in persons with epilepsy. This level is well below the 10 to 20 Hz flash rate which current data suggests is the problem range.

For non-sleeping rooms, the committee recommended either wall mounted or ceiling mounted visual signaling appliances. Wall and ceiling mounted appliances may be used in single or multiple configurations depending upon the room size. However, multiple lights should be synchronized to avoid overlapping pulses that effectively create faster flash rates.

In sleeping rooms, the committee's recommendations include only two light options. If the device is a component of a smoke detector, located on the ceiling or located less than 24 inches down from the ceiling on a side wall, it must produce a minimum effective intensity of 177 candela. If the device is located more than 24 inches down from the ceiling, it is permitted to produce a minimum effective intensity of 110 candela.

In addition to on-axis light output, visual signaling devices must provide specific amounts of light dispersion for varying viewing angles and they must meet the stringent requirements of UL Standard 1971.

Those involved in the process hope these new criteria will create an affordable and safe environment for all users. ■

Donald E. Sievers has served the National Association of the Deaf as its fire safety consultant for more than 10 years. He is a member of a number of national committees, including the Underwriters Laboratories Industry Advisory Group; National Fire Protection Association Technical Committee on Notification Appliances and the National Fire Alarm Code Coordinating Committee and the American National Standards Institute Committee on Accessible Buildings and Facilities.

Making Information Systems Accessible from Page 8

Connectivity: Wherever possible, provide an external standard connection point which can be used to connect alternate displays and/or alternate input/control mechanisms, e.g., infrared link or RS232 port with alternate display and control capability. (*Blindness, physical impairment, deaf-blindness*)

Some Quick Tests

The following quick tests can be used to identify weaknesses in the design. "Novice" is defined as someone who has never seen the system before, and who has received no instruction in the use of the system.


1. Have a novice use your system while wearing headphones playing loud music.
2. Have a novice use your system wearing a blind-fold.
3. Have a novice use your system using nothing but a single unsharpened pencil held by the eraser end.
4. Try to operate your system using a single finger while someone randomly moves your shoulders about, causing you to have involuntary and unpredictable hand movements.
5. As someone reads continuously from an unknown novel, try operating the system while repeating every word read.

6. Speed up any timed responses by a factor of five, and try to have a novice operate your system.

7. Try operating the system while wearing frosted glasses which prevent you from making out typical-sized print.

If your system fails any of these tests, see if there are alternate or additional designs or operating modes you could use to allow your system to pass the tests. While you're at it, you might consider how these new modes could also benefit your other customers who do not have disabilities.

For a complete set of guidelines for: consumer products; computer and operating systems; application software; or design of HTML (World Wide Web) pages, check the Trace ftp Gopher and Web Servers on the Internet at TRACE.WISC.EDU or send the e-mail message "index document" to Listproc@Trace.Wisc.EDU then send "get document XXXX" (where XXX is the document name) to have it e-mailed to you. Note: do not include the quotes (") in the above addresses and commands.

If you are working on or have developed design guidelines for electronic or information products, or if you are interested in this area, the Trace Center would appreciate hearing from you at curbcuts@Trace.WISC.EDU. 



...information systems are probably the most flexible of all types of product and therefore lend themselves well to universal design. As a result, it should be possible to make most of these systems accessible

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CALENDAR

Oct. 1-3: Assisted Living: Shaping the Future is the fall national conference of the Assisted Living Facilities Association of America. Design and facility management issues will be discussed. Contact 703.691.8100 for more information.

Oct. 10-12: Board for the Coordination of Model Codes (BCMC) will hold its 77th meeting in Scottsdale, AZ. The BCMC establishes the scoping provisions for the accessibility requirements found in the CABO/ANSI A117.1 Standard, referenced by the nation's model building codes. Several accessibility issues will be considered. For more information contact the Southern Building Code Congress International 205.591.1853.

Oct. 30 - Nov. 3: Retrofitting for Access is another in the continuing series of educational seminars conducted by the National Center on Accessibility. This session will be held in Martinsville, IN and will focus on the process of identifying and initiating barrier removal efforts in appropriate and cost-effective ways. For more information call 800.424.1877.


Oct. 31 - Nov 3 ADAAG Review Committee, the Federal Advisory Committee of the US Architectural & Transportation Barriers Compliance Board (Access Board) responsible for developing recommended changes to the Americans with Disabilities Act Accessibility Guidelines (ADAAG), will hold a meeting. For information, contact Marsha Mazz at the Access Board 800.USA.ABLE.

Nov. 14-15: US Architectural & Transportation Barriers Compliance Board will meet to discuss and review its research and regulatory activities. The meeting will be held in Washington, DC. For more information, contact 202.272.5434.

Nov. 15-16: Universal Design: Applications and Connections in the Real World, sponsored by Adaptive Environments, in cooperation with the Center for Accessible Housing, will be held at the World Trade Center in Boston. Interactive seminars led by national experts will focus on the practice of universal design, and feature timely updates on design-related ADA issues. Audio tapes of conference sessions and the Universal Design '95 Reference Workbook will be available after the conference. For more information, contact Charlene White at 617.695.1225 x 0 v/tty.

Nov. 17-18: Universal Design Educators Forum, sponsored by Adaptive Environments, in cooperation with the Center for Accessible Housing will be held at the Holiday Inn, Government Center in Boston. The program will feature participatory workshops focused on the teaching of universal design in schools of design and in continuing education settings. For more information contact Charlene White at 617.695.1225 x 0 v/tty.

Dec. 15: Deadline for entries to "1996 New Products for Mature Markets Design Competition." Sponsored by the American Society on Aging, the annual competition will reward companies, individual designers and students that develop unique and creative solutions to problems encountered by America's aging population. Contact Doug Harper at 601.234.0158 for an information/entry packet.

Jan. 9-10, 1996: US Architectural & Transportation Barriers Compliance Board will meet to discuss and review its research and regulatory activities. The meeting will be held in Washington, DC. For more information, contact 202.272.5434. 

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